tional data for patients undergoing lobectomy or wedge resection using open thoracotomy. Our measure of volume represents the aggregate experience level of the surgeon per six month window. Multivariable logistic regression analyses were estimated for the binary outcome - adverse events. Ordinary Least Squares (OLS) regression was used for continuous outcomes: hospital costs, surgery time, length of stay, and number of adverse events. In addition, the following explanatory variables were included: patient demographics, diagnosis, comorbid conditions, patient severity index and hospital characteristics. **RESULTS:** Of 7137 patients in the database with elective, inpatient resections for lung cancer, a total of 2698 patients underwent lobectomy (n=716) or wedge resection (n=1982) using VATS. More than 70% of these procedures were performed by thoracic surgeons (n=1896). A positive volume-outcome relationship appeared as follows: The relationship is stronger for cost and utilization outcomes versus adverse events, for thoracic surgeons versus other surgeons, and for VATS lobectomy procedures versus VATS wedge resection procedures. Finally, we find that while there was a reduction in cost and resource utilization associated with greater experience with VATS, these outcomes were not strongly linked with greater experience with open procedures. **CONCLUSIONS:** There is a reduction in cost and resource utilization associated with greater experience with VATS. Greater experience with open procedures does not correlate with better VATS outcomes.

PSU5

LONG-TERM CLINICAL SAFETY OF LASIK AND SURFACE ABLATION IN SOUTH KOREA THROUGH LINKAGE OF RETROSPECTIVE COHORT AND NATIONWIDE CLAIMS DATABASE

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OBJECTIVES: To assess the long-term safety of Laser in situ keratomilieusis (LASIK) and surface ablation surgery for myopia in South Korea. **METHODS:** A retrospective cohort for patients who had a LASIK or surface ablation surgery in 6 hospitals during 2002-2005 were constructed based on chart reviews and linked to Health Insurance Review and Assessment (HIRA) claims database during 2005-2009. A total of 2,422 patients (4,688 eyes) were linked using anonymized identifier after excluding patients with a history of eye disease, diabetes, hyperopia, or different surgery methods for both eyes. The frequency of eye disease such as cataract, glaucoma, retinal detachment, corneal opacity, and keratoconus during 3-8 years after surgery and the pre-surgery characteristics including age, UCVA (uncorrected visual acuity), manifest refractive (MR) of patients with eye disease were analyzed. **RESULTS:** There were 1,637 LASIK patients and 785 surface ablation patients. The eye disease after LASIK were cataract (0.2%) and corneal opacity (0.9%) during 3-4 years and cataract (0.1%), glaucoma (0.2%), retinal detachment (0.4%) and corneal opacity (0.7%) during 4-5 years. The retinal detachment (0.3%) and corneal opacity (1.3%) were observed during 7-8 years while no keratoconus was identified during 3-8 year follow-up. The pre-surgery MR (mean±SD) were −6.98±1.41 Diopter (D), −7.46±2.87 D, −6.13±2.67 D, −6.23±2.62 D in patients with cataract, glaucoma, retinal detachment, and corneal opacity, respectively. The incidence of eye disease after surface ablation was similar to LASIK. **CONCLUSIONS:** The linkage of clinical baseline database and nationwide claims database can make up for loss to follow-up in retrospective cohort study. Although it is difficult to explain the causality of surgery, we could ascertain there was no serious eye disease after surgery.

Surgery – Cost Studies

PSU6

ANALYSIS OF FACTORS INFLUENCING INPATIENT MORTALITY AND COSTS AMONG PEDIATRIC HEART TRANSPLANTATION RECIPIENTS

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OBJECTIVES: To assess the relationship of patient, payer, and hospital characteristics with cost and mortality in pediatric heart transplant recipients. **METHODS:** Data from the 1997, 2000, 2003, and 2006 Agency for Healthcare Research and Quality (AHRQ) Healthcare Cost and Utilization Project (HCUP) Kids' Inpatient Database (KID) were utilized. Pediatric patients aged 0-17 years receiving heart transplants were included. Logistic regression and generalized linear models were used for the analyses. Inpatient mortality and inflation-adjusted costs were the outcomes of interest. Patient demographics and clinical characteristics were the primary independent variables of interest, with payer and hospital characteristics used as control variables. Weighting procedures were utilized to yield nationally representative results. **RESULTS:** Overall, 1154 patients received heart transplants during the study timeframe. The average was 6.5 (±6.1) years. Mean inpatient hospital costs were $206,895 (±150,504). Inpatient mortality was 7.2%. Children >1 year were significantly less likely to die during hospitalization than those <1 year ($p<0.05$). Hemorrhage (OR=4.11, p=0.005) and renal failure (OR=6.45, p=0.001) were complications associated with mortality. Mortality was also significantly associated with higher number diagnoses and higher income and inversely related with West region and more recent transplants. Mortality cases incurred 1.68 times higher costs than those routinely discharged ($p<0.001$). Sepsis (exp(b)=1.18, p=0.04), respiratory disease (exp(b)=1.08, p=0.021), hemorrhage (exp(b)=1.22, $p<0.001$) and renal failure (exp(b)=1.15, p=0.003) were complications associated with higher costs. Higher costs were also significantly associated with medium hospital bedsize, age >1 year, admission from another facility, longer lengths of stay, West region, more recent transplants and higher patient income, with lower costs for transplants occurring in a children's unit of a general hospital. **CONCLUSIONS:** Multiple patient and hospital characteristics appear to significantly predict inpatient mortality and costs in pediatric heart transplant recipients.

PSU7

A DISCRETE EVENT SIMULATION MODEL TO ESTIMATE THE LONG TERM OUTCOMES OF BARIATRIC SURGERY IN MEXICO

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OBJECTIVES: Estimate the return of investment (ROI) on bariatric surgery *vs.* conventional, non-surgical approach as treatment for morbid obesity from the Mexican public health system perspective in the long term. **METHODS:** The individual experience of a morbidly-obese patient was assessed using a discrete event simulation model built in Arena™. Patients were created with unique, randomly assigned clinical and epidemiologic characteristics, cloned and sent to either bariatric surgery (BS) or conventional treatment – pharmacologic treatment of associated comorbidities and lifestyle modifications (control arm). Evaluated comorbidities were type-2 diabetes, hypertension and hypercholesterolemia. Preoperative prevalences and up-to year 2 recovery rates were taken from published meta-analyses. 2- and 10-year prevalences were derived from incidence and recovery rates shown in SOS study; in-between prevalences were interpolated assuming exponential growth, thus allowing clinical state worsening in both arms. Additional assumptions include infrastructure restrictions, no perioperative complications and short term mortality. 5% of patients in control group were allowed to have surgery after year 5. Considered costs included the bariatric procedure and comorbidity-specific pharmacologic treatment, taken from public health institution's DRGs. Simulation was run with 150 patients for 10 years and 10 iterations using a 4.5% annual discount rate. Results are shown in years and 2010 inflation-adjusted MXP. 95% confidence intervals were estimated. **RESULTS:** 10-year accumulated cost for a BS patient was $125,902 ($125,041-$ 126,763), and $259,413 ($258,098 - $260,728) for a control patient. ROI on BS was achieved on year 6.94 (6.88-7.00). Cost differences are due to the reduced resource utilization after surgery resulting from resolution of comorbidities. **CONCLUSIONS:** Investment in BS offsets its cost and is recouped within a reasonable time, thus allowing institutions to reduce the burden imposed by morbid obesity. Long-run data for other associated comorbidities is needed, as their inclusion in the analysis could decrease ROI.

PSU8

PATTERNS OF ACUTE CLOPIDOGREL USE AND INPATIENT COSTS IN ACUTE CORONARY SYNDROME PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING

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OBJECTIVES: Treatment guidelines stipulate that clopidogrel should be interrupted ≥5 days prior to elective coronary artery bypass grafting (CABG) to reduce the risk of bleeding. However, if urgent CABG is indicated, experienced surgeons may perform CABG in <5 days. This study is the first to describe patterns of acute clopidogrel use and inpatient costs among acute coronary syndrome (ACS) patients undergoing CABG, which will help decision makers understand the relative benefits/costs of antiplatelet therapies in real-world practices. **METHODS:** The study used the MarketScan® Commercial, Medicare, and Hospital Drug Databases, comprising administrative healthcare data for over 63 million individuals. ACS episodes, defined as hospitalizations for ACS (primary ICD-9-CM diagnosis 410.xx, 411.1x), occurring between 1/1/2005-6/30/2009 were identified from patients aged ≥18 years. Outcomes included costs and lengths of stay (LOS) of ACS episodes with CABG and, among clopidogrel-treated patients, number of days between the day CABG was performed and the last clopidogrel dose administered. Analyses were descriptive. **RESULTS:** 160,168 ACS episodes were identified; mean patient age = 63.5 years. CABG episodes comprised 9.3% (14,896/160,168) of ACS episodes. The mean LOS was 9.8 [SD 6.8] days per CABG episode. Mean inpatient costs were $71,140 [SD $68,012] per CABG episode. Among clopidogrel-treated patients with inpatient drug data who underwent CABG (n=8,101), the mean days between the day CABG was performed and the last dose of clopidogrel administered was 3.3 [SD 2.6] days and the majority (62.1%) underwent surgery within 2-3 days after their last clopidogrel dose. The mean incremental increase in inpatient costs associated with 1 extra LOS day was $1,950. **CONCLUSIONS:** Data suggest that surgeons commonly perform CABG within <5 days after clopidogrel administration. However, among patients for whom urgent CABG is not indicated, withholding CABG may only minimally affect inpatient costs and must be considered in the broader context of patient management.

PSU9

ECONOMIC EVALUATION OF THE CURRENT TREND TOWARDS MORE UNCEMENTED FIXATION IN PRIMARY HIP ARTHROPLASTIES AND THE POTENTIAL IMPACT OF CHANGES OF THE DEVELOPMENT IN ENGLAND AND WALES

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OBJECTIVES: The purpose of the study was to quantify the potential effect of the current trend towards more uncemented primary total hip arthroplasties (THAs) in terms of hospital costs and number of revisions over a 10 year period (2011 to 2021) in England and Wales. In addition the potential impact of changes of this development was evaluated. **METHODS:** Registry data from the National Joint Registry for England and Wales from 2004 to 2009 was used to predict the numbers of THAs and